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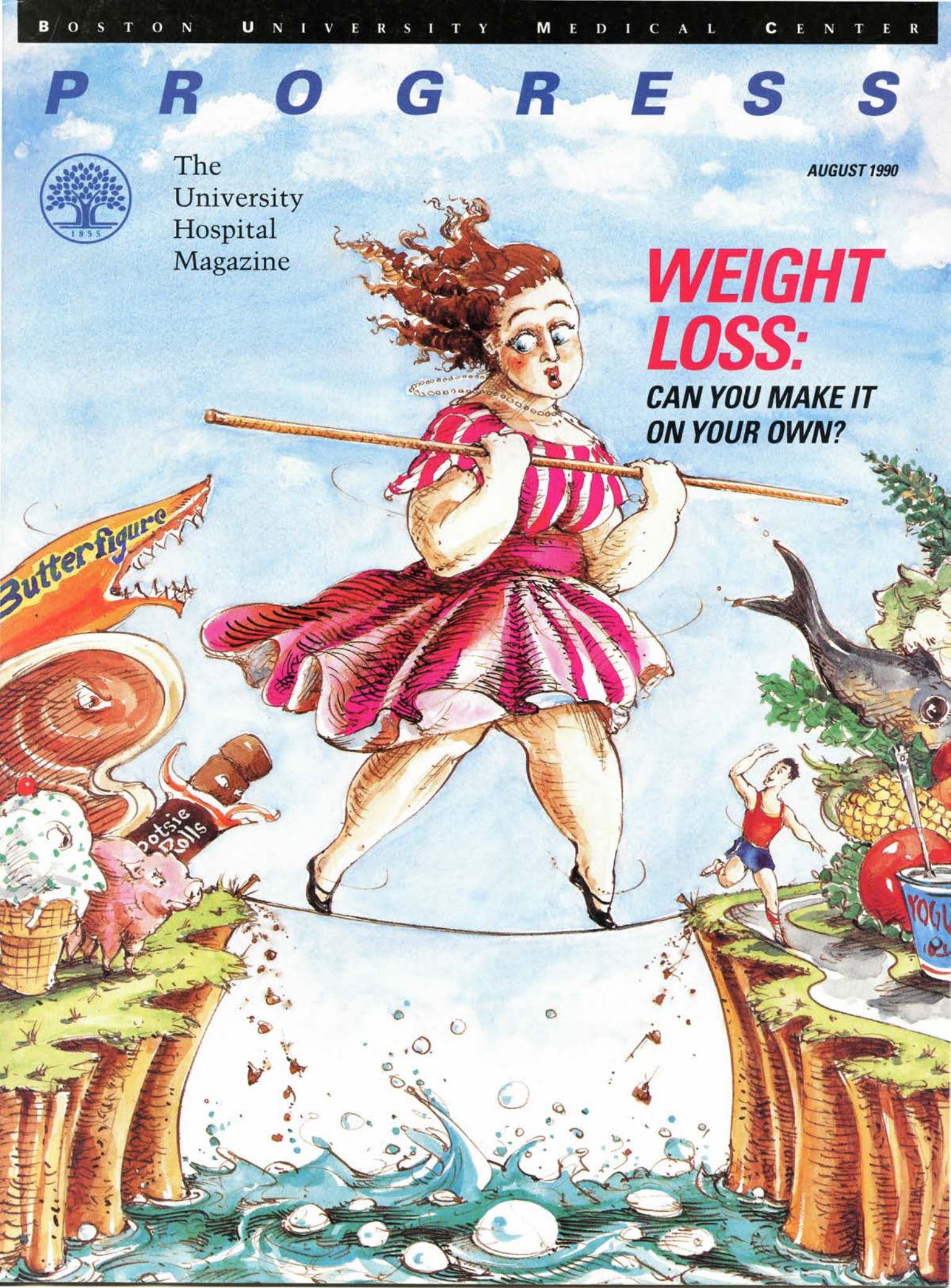

WEIGHT LOSS:

CAN YOU MAKE IT ON YOUR OWN?

The University Hospital

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PROGRESS August 1990

CONTENTS

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About the University Hospital

The University Hospital, founded in 1855, is a teaching hospital of Boston University School of Medicine. The Hospital provides a full spectrum of medical services. Its 379 beds include many special-care units, including psychiatry, coronary care, metabolic, medical intensive care, surgical intensive care, the Northeast Regional Center for Brain Injury, the New England Regional Spinal Cord Injury Center, the Wald Neurological Unit, the Respiratory Care Center, the Stone Center, the New England Male Reproductive Center and the University Continence Center. The University Hospital, Boston University School of Medicine and the University's Goldman School of Graduate Dentistry constitute Boston University Medical Center.

THE ROAD TO WEIGHT LOSS

UH diets attack obesity from clinical angle

BY MICHAEL R. PASKAVITZ

Thin is in, and if you're like most Americans you've probably tried to shed pounds as quickly as possible, perhaps on the advice of your doctor but more likely because it is expected in today's fat-conscious society. But "being slim and trim" is not simply a matter of fashion: Obesity (defined as being 20-25 percent over ideal body weight) can present serious health risks.

"Medical specialists agree that obesity is a disease associated with serious health risks," says Robert H. Lerman, M.D., Ph.D., director of the Evans Nutrition Clinic at UH and its weight loss program. "Clearly, the incidence of diabetes mellitus, coronary artery disease, hypertension, gallbladder disease, certain cancers, osteoarthritis and sleep apnea is significantly higher in obese people than in lean people."

He adds that these risks are magnified in the morbidly obese—

One year ago in May, the Jacobsons (pictured above) embarked on perhaps the most ambitious journey of their lives. Karen and Mark Jacobson, of Mansfield, Mass., who were far heavier than they wanted to be, and suffered from hypertension, entered the weight loss program at UH with the hope of shedding 150 and 90 pounds, respectively.

"Everybody had heard about and seen Oprah Winfrey after she lost her weight," recalls Mrs. Jacobson. "And I must admit, we first were interested in liquid diets because of her results, but we also had friends who were going to and recommended the University Hospital."

The couple used the HMR diet during their weight-loss process. "The quick weight loss is what appealed most to us, but we also heard about the group approach to weight loss, and the nutrition education to keep weight off; and that was very important," says Mrs. Jacobson.

Today, the Jacobsons have achieved their goals and have maintained their weight loss. "We're both doing very well," she adds. "We exercise, we constantly look at the content of the foods we eat, and we attend group sessions at the Hospital. We really feel that we're in control of our lifestyles."

people who are 100 lbs. or 100 percent over their ideal body weight. For instance, sudden unexplained death occurs about 13 times more often in morbidly obese women than in women of normal weight.

Lerman points to a recent *New England Journal of Medicine* article which showed that increased body weight in middle-aged women is a major contributor to incidences of fatal and nonfatal heart attack and anginal chest pain. The traditional belief that some degree of obesity in women is safe has been challenged by this large, well-conducted Nurses Health Study.

Dieting options at UH

The Evans Nutrition Clinic's weight loss program at UH offers three types of diets—a balanced calorie-deficient diet (BCDD), a protein-sparing modified fast (PSMF), and HMR liquid diets. (See chart next page)

People interested in these programs can attend a free monthly orientation program held in the Hospital's Keefer Auditorium.

The major focus of the program is on people who are at least 40 pounds or 30 percent over their ideal body weights and those with coexistent medical problems, such as hypertension, diabetes, hyperlipidemia, coronary artery disease, arthritis or sleep apnea. However, individually tailored weight loss programs are available to anyone who is interested in weight loss.

The PSMF and liquid diets require strict medical monitoring. Before either is prescribed, the patient undergoes a physical examination and a battery of tests to examine blood counts, chemical profile (including cholesterol), urinalysis, electrocardiogram, body composition, and energy expenditure. Selected tests are repeated at intervals throughout the weight-loss process.

"It is rare that a screening will disqualify someone from weight reduction," says Lerman. "But the detection of underlying health problems allows us to address the problems first, and to take them into account as weight loss proceeds."

Patients must be motivated and dedicated to combat recidivism and weight cycling

The BCDD is a reduced calorie diet allowing a wide range of foods from the usual diet. The level of caloric restriction is individualized, and lifestyle and food preferences are considered. Fat is restricted and dietary fiber is increased according to American Heart Association and American Cancer Society healthy eating plans. To control calories, portion guidelines are adjusted to the individual, focusing on healthy eating and meal planning.

The second option is the protein-sparing modified fast (PSMF), in which total caloric intake is drastically reduced by virtually eliminating carbohydrates and decreasing dietary fat. Food intake is limited mainly to fish, fowl, and lean meats, with small portions of salad and vegetables and eggs. The PSMF, which can only be prescribed by a physician, leads to the metabolic state known as ketosis, which signifies the production of ketones in the liver. Ketosis commonly leads to appetite suppression, blood-pressure lowering, and rapid initial weight loss.

The third option is the liquid supplemented fast, in which the only intake is very low-fat frappe-like drinks or soup. The Evans Program uses Health Management Resources (HMR) products because of their excellent nutritional quality and high taste acceptibility, according to Lerman. Five portions are allowed, supplemented with two vitamin or mineral tablets per day. Minimal ketosis occurs with HMR, although appetite is still suppressed. Improved eating habits are learned during weight loss. Regular foods are gradually introduced into the diet as a person's weight goal is approached.

Surgical options are available for selected patients who are morbidly obese, and who cannot achieve or maintain successful weight loss through the PSMF or liquid diets. Gastric bypass and gastric stapling are effective in promoting weight loss.

■ *FOR YOUR INFORMATION*

Dr. Lerman is medical director of the Evans Nutrition Clinic and its weight loss program, and is codirector of the Clinical Nutrition Unit at UH. He also is an assistant professor of medicine at Boston University School of Medicine, and an assistant professor of Nutritional Sciences at the Goldman School of Graduate Dentistry.

If you would like to attend a free monthly orientation seminar on UH's diet programs, or would like more information on nutrition services at UH, please call 1-800-842-3648, during business hours.

UH DIETS	Recommended For	Objective	Intake	Supplements	Weight Loss Patterns	Physician Monitored
Balanced Calorie Deficient Diet (BCDD)	Any person wanting to lose weight	Gradual moderate weight loss; behavior modification, nutrition education	Every day foods; low in fat and calories; high in fiber	None usually; sometimes vitamins	1-2 lbs. per week	No
Protein-Sparing Modified Fast (PSMF)	Obese people 40 lbs. or 30 percent over ideal body weight	Rapid usually marked weight loss; exercise, behavior modification, nutrition education	High-protein, low-carbo; fish, fowl, lean meats; some eggs, salads and vegetables	Potassium Calcium Vitamins	5-15 lbs. first week (mostly water weight); 3-5 lbs. per week; 40 to 50 lbs. in three months	Yes
Health Management Resources (HMR) Liquid Diets	Same as PSMF	Same as PSMF	No solid food intake; only 520 k/cal or 800 k/cal frappes or soup (5 times per day)	Vitamins Minerals Others as needed	Same as PSMF	Yes

Recidivism, a.k.a. the "Yo-Yo" syndrome

Weight loss is not a cure for obesity. Lerman uses the term "recidivism" when speaking of the most important factor in dieting—the word generally means a tendency to relapse into former habits. In weight control, recidivism, also called the "yo-yo" syndrome, means the regaining of lost weight. As Lerman points out, "Recidivism is the most significant challenge for those who lose a great deal of weight."

Studies indicate that when animals lose and then regain weight several times, they tend to regain weight more rapidly and lose weight more slowly with each subsequent cycle. Lerman encourages patients to be highly motivated and ready to enter into major weight loss with great effort and dedication, as it is likely that human weight-cycling is similar to the animal cycles.

So what is the source of this "yo-yo" syndrome? The diet? The patient? The doctor?

The physiology of the body itself may be the main culprit in recidivism, more than the willpower of a patient or the quality of a diet. The body appears to have a "setpoint"—that is, a weight and metabolic rate to which it is accustomed. When weight is lost or gained rapidly, the body appears to sense that change and to gravitate back toward its setpoint.

Recent research supports this theory. One study asserts that people who lose weight overproduce an enzyme known as lipoprotein lipase, which makes it easier to regain lost weight.

As weight is lost, fat cells do not disappear; they simply decrease in size. But it also appears that these cells have a minimum acceptable size. Once fat cells reach this minimum size, any further loss of fat sends out powerful, although not-yet-understood, signals that often prompt dieters to abandon their diets, which will lead to reenlargement of their fat cells. Exercise has been shown to be the most potent factor in keeping fat cells to a minimum size.

Other physiological factors come into play in weight loss. For instance, when a person loses a significant amount of weight, there is a decrease in his or her isocaloric level—the number of daily calories needed to maintain body weight. As a result, lost weight can be regained more easily if the person does not compensate through decreased caloric intake and increased exercise.

"Poorly balanced diets may cause major loss of lean tissue, which leads to the lowering of the patient's basal metabolic rate," says Lerman. "There also are individual differences in response to dieting, with greater losses of lean tissue in some people than in others. By close monitoring, we identify people losing too much lean tissue and adjust their diets."

Many people believe that by exercising vigorously and often they can actually speed up their basal metabolism, thus burning more calories in the course of a day. But Lerman says that this correlation is difficult to establish. "A few studies contended that vigorous exercise does change basal metabolic rate, but recent well-conducted studies do not support this conclusion. If you exercise today, for example, it probably will not affect how many calories you burn tomorrow. One good study found that metabolic carryover from exercise lasted only 40 to 100 minutes after exercise. Regardless of the

carryover effect, exercise does burn calories, and if done within the aerobic training pulse rate ranges, it will burn fat rather than lean tissue," says Lerman.

The UH program contains two components that Lerman feels are essential in the battle against recidivism: Nutrition education/behavior modification classes, and an exercise program. "No one," he says, "can guarantee to any patient that weight regain will not occur. However, we offer approaches that improve the probability of long-term success. These include a disciplined exercise program with the expenditure of at least 2,100 calories per week, and attendance at behavior modification/nutrition education classes for at least 18 months following weight loss."

Nutritionists in the program are important to patients' dieting success, as they coordinate the educational element.

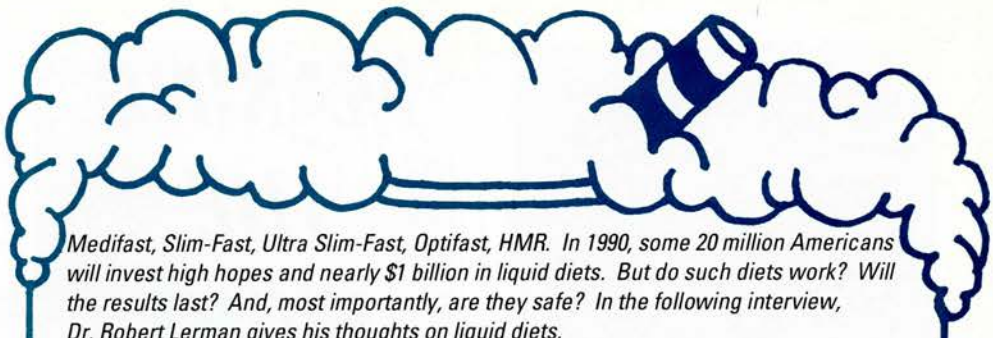
Do it for your kids' sake

In recent years, data have linked adult obesity to childhood factors. For instance, a child reportedly has an 80-percent risk of having future weight problems if both parents are obese, a 50-percent chance if one parent is obese, and only a 10-percent chance if both parents are of normal weight.

While experts believe there is a definite parent-child behavioral link, "there also is evidence that obesity is influenced by genetics," says Lerman. "However, it appears that leaness rather than fatness may be the more important genetically transmitted factor."

In the last two decades, obesity among U.S. children ages 6 to 11 has increased by 54 percent, and by 39 percent in children ages 12 to 17. And an estimated 70 percent of obese 10 to 13 year-olds will have weight-control problems as adults.

"There is little doubt that the best way to control obesity is to prevent it," concludes Lerman.



Medifast, Slim-Fast, Ultra Slim-Fast, Optifast, HMR. In 1990, some 20 million Americans will invest high hopes and nearly $1 billion in liquid diets. But do such diets work? Will the results last? And, most importantly, are they safe? In the following interview, Dr. Robert Lerman gives his thoughts on liquid diets.

Progress: Are liquid diets effective? And will the results last?

Lerman: Yes, they are—provided that they are followed correctly. My experience has been with HMR and Optifast. There is no doubt in my mind that these products can produce major losses of weight in most well-motivated patients. Typical weight losses are 40 to 50 pounds in three months. Although I've had no experience with Medifast, it should lead to similar results. These products are used as sole intake—that is, no solid food is allowed. However, with the Slim-Fast diets, a meal is eaten daily. This may work well for some people, but more often eating one specified meal leads to small deviations and then larger ones. The diets often are then abandoned. HMR, Optifast and Medifast, which require medical supervision, limit intake to the product alone. The lack of choice and the appetite suppression make adherence much easier.

However, we have learned that diet effectiveness cannot be measured solely by weight-loss results. Effectiveness in weight maintenance is the key. To succeed in maintenance, patients need intensive behavior modification and nutrition education, preferably done in a group setting. After examining the available programs, I was most impressed by HMR. Their educational component is what we use, and studies indicate that their long-term results are more effective than other programs.

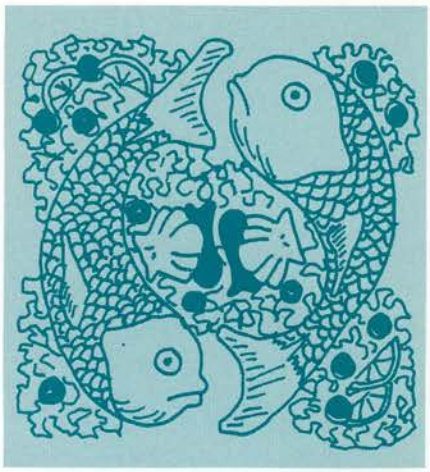
Progress: Are these diets safe?

Lerman: Yes, they appear to be, if skillfully monitored in a clinical setting. Side effects, such as constipation, cold intolerance, electrolyte disturbances, gallstone formation, dizziness, muscle cramps, hair loss, menstrual irregularity and fatigue, can and do occur. Most are no more than minor inconveniences that are easily prevented or treated.

The issue of gallstones is worthy of comment. The risk of gallstone formation is three or four times higher in obese people than in people of normal weight. This incidence of gallstones appears to increase during weight loss with very-low-calorie diets, reflecting a combination of lack of gallbladder contraction and changes in bile composition. Stones also may disappear after regular food is reintroduced. Pancreatitis may occur as a complication of gallstones, although we have not seen this in any of our patients. These problems often become manifest when the diet is broken with the ingestion of fatty foods. Fat leads to gallbladder contraction and if stones are present, a painful gallbladder attack may occur.

Another area of concern is that of heart-rhythm disturbances. We must not forget the experiences of the 1970s, when 58 women died of heart-rhythm disturbances related to weight loss with poor quality, poorly supplemented, "liquid-protein" diets. Our present liquid diets provide high quality protein with adequate micronutrient supplementation. No similar problems have been reported with these diets. However, medical monitoring is essential. Some patients, left to their own devices, drink fewer of the diet drinks in an attempt to speed up their rate of weight loss, not realizing the potential danger of this approach. Not only do they receive fewer calories, but they reduce their protein intake and risk the development of protein malnutrition, which may affect the heart muscle. Also, electrolyte disturbances may predispose one to heart-rhythm abnormalities. Biweekly blood monitoring allows correction of these disturbances before adverse side effects occur.

MAKING THE RIGHT CHOICES



Studies aim to improve diet habits of today's children and tomorrow's adults

BY ELIZABETH E. RUSSELL

Ask kids what they would rather eat, a cheeseburger or a salad, and what do you think their answer would be? You might expect to hear a thundering cry for cheeseburgers, and you'd probably be right.

If you ask that same question in the year 2000, the answer could be different, in part because of the work of R. Curtis Ellison, M.D., a renowned epidemiologist and head of the Section of Preventive Medicine and Epidemiology of the Evans Memorial Department of Clinical Research at UH. Ellison and his colleagues are documenting the diet patterns of young Americans and are developing and evaluating strategies to reduce the sodium and fat in young people's diets.

The typical American diet—high in saturated fat, sodium and cholesterol—is one of the major factors leading to heart and blood-vessel diseases, which claim nearly one millions lives each year. More than half of those deaths are the result of heart attack.

Although heart disease usually strikes later in life, its precursors begin in childhood. "We must not wait until adulthood to deal with many heart-related problems, such as hypertension, obesity and high cholesterol. We hope to begin preventing conditions during childhood and reduce the chances that these children will develop heart disease when they are older," says Ellison.

Since diet plays such a pivotal role in the development of heart disease, Ellison is focusing his efforts on ways to improve the diets of today's youngsters. "We have the opportunity to effect a better diet in the next generation of adults by taking steps today to encourage them to adopt healthy eating habits."

Ellison says he believes that intervention is possible when children are very young, but that interventions must be targeted to the specific factors that influence children at various stages in their lives. To better understand the factors that influence diet and the efficacy of various interventions, Ellison has conducted a series of studies focused on the diets of children at various ages.

One study observes the dietary habits of children starting at age three; another nationally funded study, the "Child and Adolescent Trial for Cardiovascular Health (CATCH)," looks at the school lunches of third, fourth and fifth graders; a third investigated the diets of 14-to 16-year-old students; and a fourth study looked at the breakfast habits of 18- to 22-year-old college students, and how those habits impact total fat and cholesterol intake.

The first study began four years ago, when Ellison and his colleagues began monitoring the diets of members of the Framingham Children's Study, who were three to four years of age at the time. By documenting what these youngsters eat, Ellison and his colleagues hope to discover the factors that are likely to cause children to become "bad eaters" or "healthy eaters." Bad eaters are defined as those who have diets that are high in fat and salt. Healthy eaters are those who maintain high carbohydrate, low-fat, low-salt diets as they grow up.

The researchers will be looking at the degree to which the eating habits and food attitudes of family and friends influence the eating patterns of children, and whether other factors, such as education, income, neighborhoods, schools and television, also play major roles. Once the importance of various factors is determined, educational programs and other interventions can be specifically targeted to age groups to inspire kids to make

healthier choices.

The CATCH study is an interventional program aimed at preventing heart disease before it begins by teaching third- through fifth-grade students healthy eating and exercise behaviors. Boston University School of Medicine is the coordinating center for this collaborative study, which also involves study centers and schools at four other sites throughout the country.

Interventions in the CATCH study involve the classroom and the lunchroom. The program includes health education, take-home projects for parents and children and increased activity in the schools' physical education classes. In addition, food-service directors at participating schools learn how to purchase foods and prepare meals that are low in sodium and saturated fat, yet are tasty to the kids. The success of the interventions will be measured by comparing the cardiovascular risk levels of children before and after intervention.

Many of the interventions used in the CATCH program are based on previous work conducted by Ellison at two boarding schools, where he and his colleagues designed changes in the way food at the schools was purchased and prepared; the researchers then assessed the level of acceptance by the students. Rather than try to change the eating behaviors of the students, the researchers sought to modify the food served to them.

The group worked with the food-service departments to make changes in the menus at Phillips Exeter Academy and at Phillips Andover Academy to reduce the amount of salt used and to improve the ratio of saturated fats to polyunsaturated fats. They did not attempt to reduce the total fat content of the students' diet. The modifications included: replacing butter and oils high in saturated fats with margarine and oils high in polyunsaturated fats, substituting modified-fat products for regular products and reducing the amount of salt in the food.

The modified products were well accepted by the students; in fact, many students did not notice the changes. The 20-percent reduction in sodium led to a significant lowering of blood pressure among the students.

The final study looked at how modifications in breakfast foods influenced total daily intake of fat and cholesterol. Two groups of college students at Fitchburg State College were studied. The students were randomly assigned to either a high-fat or low-fat breakfast for three weeks and then switched to the other menu for three weeks.

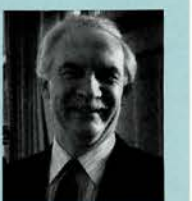
The study demonstrated that when students decreased their fat intake at breakfast—switching from eggs, bacon, pancakes and whole milk to cereals, muffins, fresh fruits and low-fat milk—they substantially reduced their total daily intakes of both fat and cholesterol. In fact, after only three weeks on the low-fat breakfast, a significant lowering of blood cholesterol was seen.

Ellison says the studies show that improvements are possible, but adds that he believes the problem must be approached on two levels. "Through research, intervention and education, we can make young people conscious of the foods they select and knowledgable about the importance of exercise," he says. "We are doing this the same way health officials are trying to promote a smoke-free America by the year 2000: Through educating children today who will finish high school by 2000 and beyond."

But equally as important, according to Ellison, is the need for changes within the food industry, including school cafeterias, other institutions, grocery stores and restaurants. "The food industry had made and will continue to make changes if the public demands them," says Ellison. "We can improve the options available. If we pay attention to the food we buy and how it is prepared, we could eat essentially the same food products, but they would be lower in fat and sodium." He feels that if children are educated about the issues today, they will make demands on the food industry tomorrow.

Ellison says he hopes that if a youngster is asked in the year 2000 whether he or she prefers a cheeseburger or a salad, two changes will have occurred: first, that the child will choose the nutritional quality of a salad; and, second, there won't be greasy burgers because the "typical" cheeseburger will be made with lean beef and low-fat cheese and will itself be healthier.

■ FOR YOUR INFORMATION



Dr. Ellison is head of the Section of Epidemiology/ Preventive Medicine at UH, and is a professor of medicine at Boston University School of Medicine, as well as professor of medicine and public health at Boston University School of Public Health.

If you would like more information on these epidemiological studies, please call 1-800-842-3648, during business hours.

BACK IN ACT

Artificial ligament helps athletes return quickly to full strength

Last summer when Evan Jaffe made the Boston University men's soccer traveling team as a freshman, he had a lot to work for, and even more to look forward to. But Jaffe's soccer ambitions were threatened when, on August 26, 1989, he tore his anterior cruciate ligament (ACL)—a key tissue that connects the thigh bone to the shin bone—in a preseason BU scrimmage against American University.

Until recently, such an injury would have abruptly ended an athlete's career; in fact, a torn ACL is the most common career-ending knee injury for athletes. But Jaffe was given a new lease on his soccer career by UH orthopedic surgeon Anthony Schepsis, M.D., who implanted an artificial knee ligament to replace Jaffe's torn ACL.

Five days after Jaffe's injury, Schepsis arthroscopically implanted the Ligament Augmentation Device (LAD), which resembles a nylon shoe lace. To repair Jaffe's injured knee, the LAD was implanted with a piece of tendon grafted from another part of his body. After months of rigorous physical-therapy sessions, Jaffe was back on the soccer field just eight months following his injury.

Schepsis estimates that by employing the LAD, "Athletes can return to their activity about 50-percent more quickly than with previous methods, and with optimal strength." This new device, which is now routinely used by UH orthopedic surgeons in ACL knee reconstruction, has helped nearly 250 UH patients, like Jaffe, get back into action.

"We have had excellent results ever since we began testing the LAD in patients in 1983," says Schepsis, who was the first surgeon in the Northeast to implant the LAD. "We have found no evidence of infection or rejection, and rehabilitation has gone very well for our patients."

A vital ligament for jumping, pivoting

The anterior cruciate ligament is the fibrous band of tissue in the center of the knee that connects the thigh bone (femur) to the shin bone (tibia). When the ACL is torn or is surgically removed, the knee has no support on which to pivot or jump. Formerly, athletes who tore the ligament or had it removed were faced with the fact that they probably would never return to their previous level of performance.

By implanting the LAD, surgeons provide athletes with excellent odds for a full recovery. The

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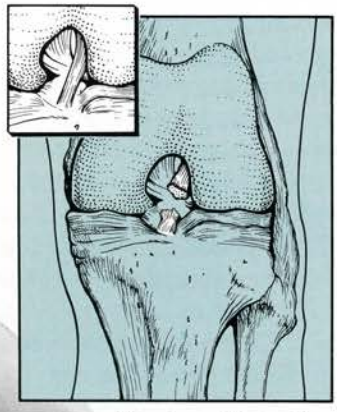
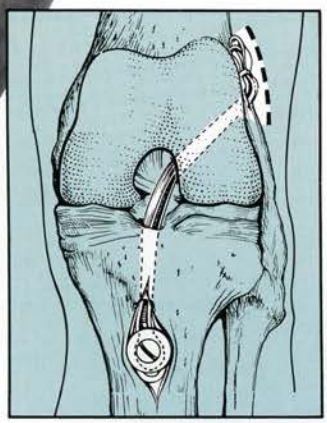


The above illustration shows a torn ACL from a rear view of the knee; the insert shows a normal, healthy ACL.



The above illustration shows a rear view of the LAD in place, attached to a grafted tendon.

device, although not a replacement for the ACL, is a new adjunct to the traditional method of reconstruction, whereby a piece of tendon from another part of the body was implanted as a replacement for the ACL. That approach, although successful in providing basic support for the knee, rarely allowed athletes to return to competition, because the grafted tendons took a long time to revascularize and sometimes were not as strong as the original ligament.

This new procedure, in which the LAD is attached to the grafted tendon, promotes revascularization with no incidence of infection or rejection, and takes stress off the tendon while it revascularizes. Schepsis now implants the ACL arthroscopically, often without the use of general anesthesia.

The road to recovery

Schepsis and his colleagues at the UH Sports Medicine Clinic were the only surgeons in the Northeast to be involved in the early clinical studies of the LAD. In 1987, the federal Food and Drug Administration (FDA) approved this device for general clinical use in patients.

The LAD has revolutionized treatment of this serious injury by allowing the knee to be rehabilitated at an accelerated rate. "While every patient and the extent of his or her injury is different," says Schepsis, "generally, our patients have full extension of their knees within weeks after surgery. It is routine to have patients running within three or four months following surgery."

Key to the healing process is immediate rehabilitative intervention. "We put our patients onto a CPM (Continuous Passive Motion) machine immediately following surgery," says Schepsis. "This helps reduce adhesions on scar tissue and allows early return of a full range of motion in the knee."

The next step in recovery is physical therapy. In Jaffe's case, he worked rigorously with physical therapist Lynn Snyder-Mackler, R.P.T., on a Cybex machine that specifically stressed the kicking motion that is so important to a soccer player like Jaffe. "She worked me hard," he says. "But she was great, and I really feel good now."

'I feel great'

While kicking the ball around BU's Nickerson Field, the 18-year-old Jaffe recalls his injury, "I was just running downfield in a scrimmage and I took a long step; it felt like my left knee just popped. I remember it well, obviously."

After 10 months and countless hours of icing and physical therapy, "I feel great," says Jaffe, a native of Plantation, Fla. "In fact, I just went out and kicked the ball around. I got the okay to play again from Dr. Schepsis."

With support from a knee brace, Jaffe is spending the summer months playing in several soccer leagues in Florida. Will he be back playing soccer for Boston University next season? "Most definitely. I can't wait."

by Michael R. Paskavitz

FOR YOUR INFORMATION

Dr. Schepsis is a member of the Hospital's Department of Orthopedic Surgery and its Sports Medicine Clinic, and is an assistant professor of surgery at Boston University School of Medicine.

If you would like more information on the LAD or on Sports Medicine or orthopedic services at UH, please call 1-800-842-3648, during business hours.

SKIN GRAFT BREAKTHROUGH

New technique performed at UH shows success in treating patients with painful skin ulcers

Three thousand years ago—seven centuries before Hippocrates defined his system of medicine—history's first skin graft was performed in India. Today, in an era of lasers, shock waves and magnetic images, the delicate technique of skin grafting continues to evolve.

Now a treatment has been developed that is good news for the estimated 1.5 million Americans who suffer from painful skin ulcers. More than 100 University Hospital patients with painful skin ulcers have benefited from a new treatment for their wounds—a technique known as cultured epidermal allografting. This innovative procedure, in which pieces of cultured infant foreskin are applied to ulcerated skin lesions, promotes the rapid healing of wounds and almost immediate relief from pain in many patients.

UH dermatologist Tania Phillips, M.D., is the only physician in the United States routinely performing this technique.

"We're not precisely sure why healing occurs at such an accelerated rate," says Phillips. "But it has been established that newborn cells grow well in culture; much better than adult cells. And infant foreskin also secretes large amounts of growth factors, which are known to stimulate cell growth in wounds, and, subsequently, help the wound heal itself."

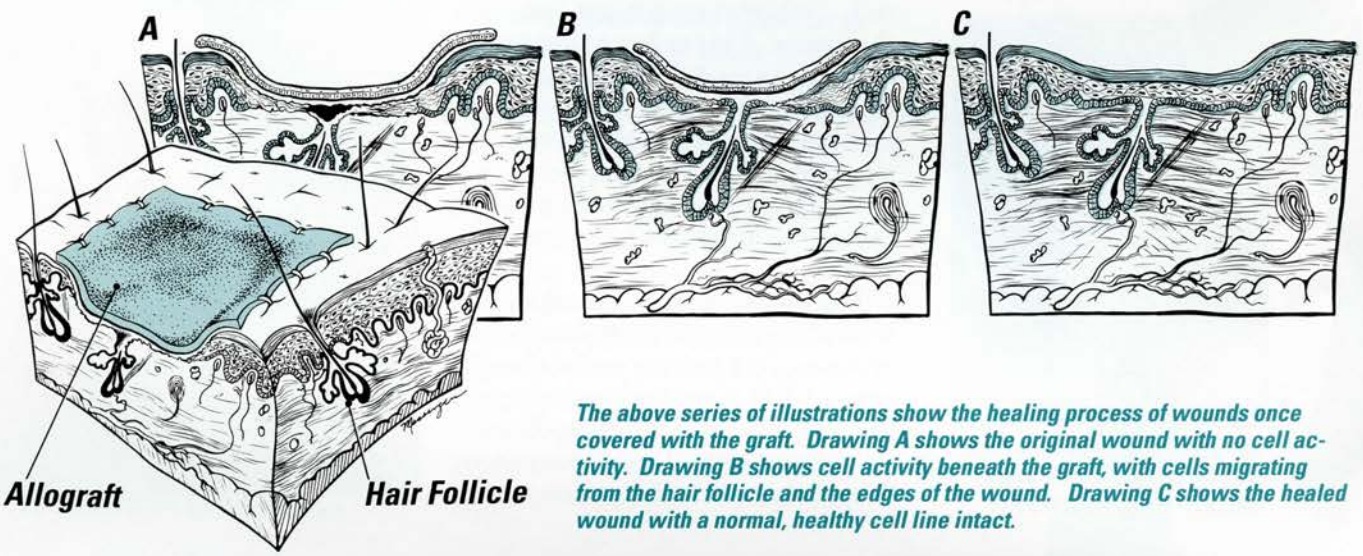
The results thus far have been quite dramatic, according to Phillips. In patients with smaller, more superficial wounds, complete healing has occured in between 90 and 100 percent of cases. Approximately two-thirds of patients with chronic ulcers have achieved total healing.

What causes skin ulcers

Skin ulcers can develop because of poor circulation. When skin is deprived of the necessary amounts of oxygen and nutrients provided by blood, the healing of wounds can be impaired.

A major risk factor for skin ulcers is age. As a natural consequence of aging, arteries tend to become occluded (close up) and weaken due to wear and tear, so blood circulation is impaired. In addition, research has shown that cell activity in elders slows with age, which makes healing wounds

The Healing Process



The above series of illustrations show the healing process of wounds once covered with the graft. Drawing A shows the original wound with no cell activity. Drawing B shows cell activity beneath the graft, with cells migrating from the hair follicle and the edges of the wound. Drawing C shows the healed wound with a normal, healthy cell line intact.

and fighting infection more difficult for older persons.

Another common risk factor for ulceration in the legs is venous disease. Diabetes poses a risk because high glucose levels increase the risk for arterial disease and circulatory problems. Poor functioning of the immune system is another risk, since it presents problems in fighting off infection.

"It is important to point out, however, that while this technique can heal the wound itself, it will not affect the underlying disease," says Phillips. "But it does provide tremendous relief from pain in the majority of patients if the ulcer is healed."

The product of an evolution

The evolution of skin grafting has been gradual. Autologous skin grafting—using a section of healthy skin from one part of a patient's body to heal a damaged area of his skin—has long been used to treat a variety of wounds. However, in patients with extensive burns, this method is not possible because of the lack of healthy donor sites.

In 1981, Harvard University researcher Howard Green, M.D., introduced a method of culturing tiny pieces of a person's own skin in the laboratory into large sheets, which could then be transplanted back onto the patient. Using Green's technique, a piece of skin the size of a postage stamp could be expanded to cover the entire body surface. This technique has proven to be lifesaving in patients with extensive burns.

However, in 1983, the late New York researcher Jack Hefton, Ph.D., was able to grow the skin cells of cadavers in culture, apply them to the wounds of burn victims, and produce a healing effect in the wound. While working as a clinical dermatologist at London Hospital in England, Phillips began to study the use of cultured foreign tissues as an alternative to using one's own tissue.

Phillips first studied foreign tissues by using cultured tissues from female breast-reduction patients as a method for treating ulcers of the leg. While the results were generally quite good, this technique was supplanted by the use of neonatal tissues. Because 70 percent of American men are circumsized at birth, foreskin samples were readily available and grew extremely well in culture.

The technique promotes rapid healing and tremendous relief from pain

By culturing tiny portions of discarded infant foreskin in the laboratory, large sheets of skin cells can be grown for use in patients. Because infant-foreskin tissues can be grown in culture to 10,000 times their original size, there is no shortage of tissues. "I have used a piece of skin the size of a postage stamp to treat almost 100 patients already," says Phillips.

What the procedure involves

It is important to point out that the neonatal tissue does not grow to replace the ulcerated skin. "It is well known that if you transplant foreign skin tissues, they will eventually be rejected," says Phillips. Thus, the desired effect is for the infant skin's vigorously growing cells and abundant growth factors to promote cell activity in the wound, which causes a healing effect of the patient's own skin.

Typically, the cells of the infant skin are applied directly to the wound and are covered with a biological gauze. Because this application does not require any surgical incision or anesthesia, it is a very comfortable outpatient procedure. Key to this healing effect is the placement of the dressing on the wound.

"We think the combination of a biological dressing, which keeps the wound moist and protects it from the air, and the rich mix of growth factors secreted by the neonatal cells stimulate the patient's own skin cells to be more active and fill in the wound, which they couldn't do before," says Phillips.

Currently, Phillips is seeking patients with venous skin ulcers for a new study of the technique. This study, which would involve one application per week for eight weeks, will help determine whether the frequency of applications has any bearing on how quickly the ulcers heal.

by Michael R. Paskavitz

■ *FOR YOUR INFORMATION*

Dr. Phillips is a member of the Hospital's Department of Dermatology, and is a research fellow at Boston University School of Medicine.

If you would like more information on cultured epidermal allografting, or on dermatology services at UH, please call 1-800-842-3648, during business hours.

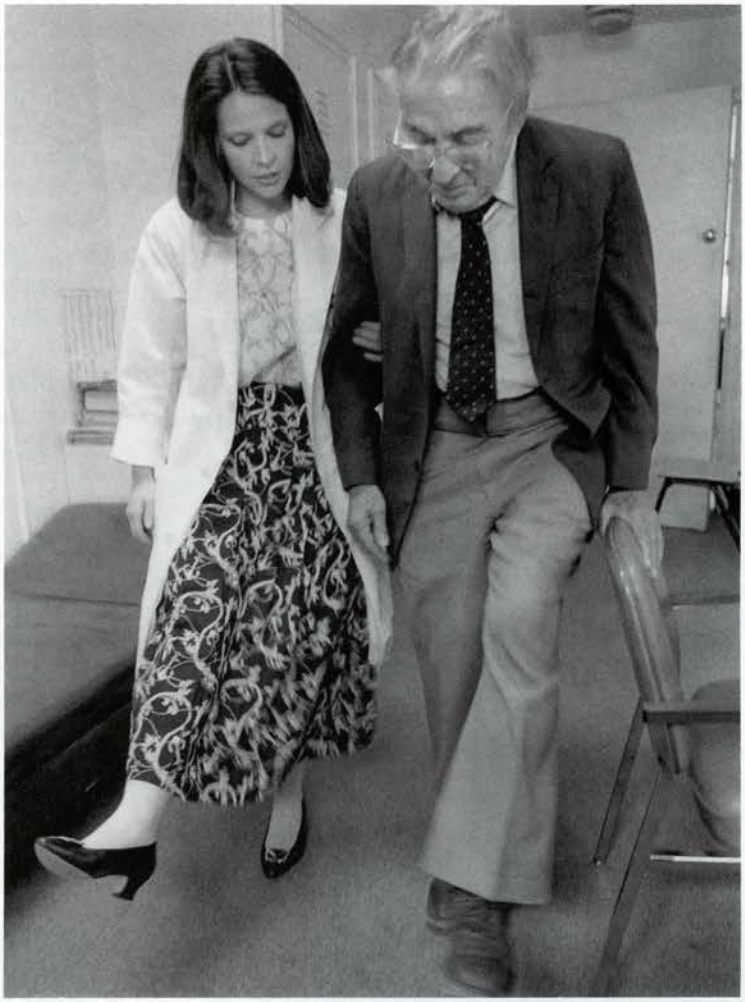
FINE TUNING

Parkinson's Day Program promotes maximum functioning for patients

BY PATRICIA J. JACOBS

How Parkinson's patients respond to medication is the key to how well they function and to the quality of their daily lives. But because an hour-long office visit cannot fully reveal a patient's response to drugs, physicians find making assessments over such a short time difficult.

To help physicans to more closely monitor this vital aspect of treatment, the University Hospital has developed a unique program—the Parkinson's Day Program—which is now being used as a model for other health institutions in the nation. This innovative program was introduced by UH Neurology Chief Robert G. Feldman, M.D.



Linda Perry, R.N., coordinator of the Day Program, helps a Parkinson's patient with his walking gait.

"Our goal," according to Marie Saint-Hilaire, M.D., a UH neurologist and the director of the Parkinson's Day Program, "is to adjust a person's medication to such a fine degree that he or she achieves the maximum level of functioning for the longest period of time."

In the Day Program, a nurse/physician team spends a whole day observing and evaluating each Parkinson's patient. Accompanied by their spouses or family members, patients also participate in an educational program, receive consultations from other experts as needed, and learn from other patients and their family members.

Parkinson's disease is a chronic, progressive, neurological disorder afflicting approximately 1.5 million Americans. Caused by an insufficiency of dopamine—a neurochemical needed for proper body movement—the disease produces disabling symptoms that range from tremors and stiffness to slurred speech and difficulty with posture and balance.

Medication—the primary method of treating Parkinson's disease—consists of a variety of drugs designed to mimic or enhance the action of dopamine. The most commonly used medication is Sinemet, a combination of levodopa and carbodopa.

How the medication works is a very individual matter, according to Saint-Hilaire. "Each person reacts very differently. We have to assess if the person is over- or under-medicated and if the individual's response to the drugs changes over time, if it is affected by meals, or fluctuates with the time of day."

By observing the medication's effect on speech, gait, and other movements over six to eight hours, the day program team is able to make judgments about how much and how often a patient needs medication and the best combination of drugs.

Finding the balance between

too much and too little medication is a major objective. Too little medication may mean a patient is not mobile enough to function well in daily life. Too much, on the other hand, can cause disturbing side effects that range from dyskinesias—uncontrollable movements that are very different from the tremors of the disease—to hallucinations.

"The side effects can be exhausting and at times are as disabling as the the disease itself," says Linda Perry, R.N., coordinator of the program. "We want the dose of medication to be high enough so that the patient functions well, but low enough to prevent these side effects."

'Education helps patients cope better, communicate easier, and comply with treatment'

This fine-tuning is almost impossible to accomplish in an hour-long office visit, and yet can have the greatest impact on a patient's quality of life.

Learning how to communicate

In addition to constant evaluation and observation, patients are provided with a variety of education materials and experiences.

"I consider the teaching that I do as important as the clinical parts of the day program," says Perry. "Knowledge about their illness goes a long way in helping patients to cope better, to communicate with their physicians more easily and to comply with their treatment regimens."

Patients also learn relaxation and stress-management techniques. "Parkinson's patients often feel a great deal of anxiety, especially while one dose of medication wears off and another kicks in," says Saint-Hilaire. "Learning to relax lessens the role anxiety plays in aggravating symptoms."

Nutrition is also a vital part of the education program, particularly since research has shown that high-protein diets inhibit the the body's ability to use Sinemet. Some patients function better if they eat only one protein meal a day, usually before bed.

Perry also presents strategies to help patients with difficult physical obstacles they face daily. For instance, patients will sometimes feel as though their feet are stuck to the floor when approaching a narrow space. Perry advises them not to panic and imagine that they are stepping over an imaginary line. "This seems to break the freeze," says Perry.

The Parkinson's Day Program streamlines a patient's access to all other needed services, such as physical therapy, occupational therapy and psychologists. "We now have a comprehensive core group of experts that we call upon if a Day Program patient needs other services," says Perry.

The Day Program staff helps to set up appointments with experts on the same day so the patient and family do not have to make an extra visit to the Hospital.

Relaxed environment where peers support patients

The Day Program is located in a comfortably decorated room, large enough for three patients and their spouses or other family members to relax, eat lunch together and meet individually with therapists if necessary.

"I think the environment in the day room encourages patients to talk about some of their real concerns and ask questions they might not normally bring up during an hour-long office visit," says Saint-Hilaire.

During the day, patients and family members have plenty of time to get acquainted and share strategies and experiences. "The support and information patients gain from each other is another invaluable side benefit of the program," according to Saint-Hilaire.

"We are very careful to choose patients who would be compatible with or helpful to each other," says Perry. For instance, an older patient who has been dealing well with Parkinson's disease for many years may be a good match for someone recently diagnosed and very fearful about the future, she adds.

After a day at the University Hospital, patients often go home with a new medication schedule—which is also sent to their physcians—and, according to Saint-Hilaire, take with them a renewed sense of their ability to cope with Parkinson's disease.

And, adds Perry, some patients come back once a year for a refresher. "Many patients think of it as a retreat where they can be recharged for the coming year," she says.

■ FOR YOUR INFORMATION

Dr. St. Hilaire is director of the Parkinson's Day Program of UH's Department of Neurology, and is an associate professor of neurology at Boston University School of Medicine.

If you would like more information about the Day Program or other neurology services at UH, please call 1-800-842-3648, during business hours.

PAIN CONTROL

Anesthesiologists' aim: patient comfort and better outcomes

BY SUSAN H. PLUMB

Among the concerns of a patient who is anticipating surgery, pain probably tops the list. Fortunately for the 15 million Americans—and 6,600 UH patients—who will undergo some form of surgery this year, anesthesiologists can control and nearly eliminate any operative or post-operative pain.

According to UH's chief of anesthesiology, Marcelle M. Willock, M.D., anesthesiologists design a method of pain care for each patient—this attention begins before and continues until after the procedure.

Treating the whole patient

The philosophy of Willock's department is to treat the whole patient. "We pay attention to everything—blood pressure, diabetes, thyroid medication, and general health," explains Willock. "The average person thinks that we give a shot in the arm and that's it, but the anesthesiologist must know a little bit about every surgical field."

Their most obvious work is accomplished in the operating room, but valuable time also is devoted to one-to-one meetings two weeks prior to surgery. The anesthesiologist typically asks questions about general health, takes blood pressure, and discusses the upcoming surgery. "We have one person out of the operating room all day just to do these evaluations; they are extremely important," says Willock.

Postoperative pain care

Comfort during recovery has been shown to greatly impact the outcome of the surgery.

"By using certain postoperative techniques, we have shortened the patients' length of stay; and they feel much more comfortable and have fewer complications. This is where our anesthesia makes a big difference in patient outcomes," says Willock.

One option for certain patients is a device called patient-controlled analgesia. After surgery, patients are intravenously hooked up to a computer-controlled pump. When they experience pain, patients are able to administer a small dose of drug to themselves by simply pushing a button. Careful limits are set so that there is no risk of overdose.

A combined anesthesiology and neurosurgery experiment performed on laminectomy (spinal surgery) patients, found that a specially-prepared morphine solution applied to the epidural space—the space at the base of the spine—reduced local pain postoperatively.

Willock expresses confidence in this procedure. "I had a patient who had this procedure done," she recalls. "She had a hysterectomy and she went home on her third postoperative day and was back to work on her ninth day. After an abdominal operation, most patients expect to be out of commission for three to six weeks. She just felt marvelous and she looked terrific."

Tackling chronic pain

Anesthesiologists have begun to venture into the area of controlling chronic pain—pain persisting from three to six months. Chronic pain can result from such conditions as cancer and arthritis, but also can describe low-back pain or recurrent headaches. In its various forms, chronic pain affects an estimated one-third of the population and costs billions annually in treatments and lost wages.

Willock is encouraged by the results she has seen at UH in treating two types of chronic pain—postherpetic neuralgia and reflex sympathetic dystrophy. The former condition is the pain that lingers once herpes zoster (a skin rash known as shingles) subsides, and the latter causes pain when hands or feet get cold.

Physicians now regard chronic pain as a disease unto itself, and are beginning to treat it as such. The range of treatment methods that have emerged include physical, psychological, pharmacological and surgical approaches.

Pain remains a challenging phenomenon to control and overcome, but Willock is optimistic about the future of pain control.

■ *FOR YOUR INFORMATION*

Dr. Willock is chief of UH's Department of Anesthesiology, and is a professor and chairman of the Department of Anesthesiology at Boston University School of Medicine.

If you would like more information on anesthesiology services at UH, please call 1-800-842-3648, during business hours.

HEALTH NOTES

I'm a pregnant woman who smokes. I know that smoking increases my risk for cancer, but I have heard it causes heart disease too. Is this true?

Cigarette smoking is the leading preventable cause of death and disability in the United States. Smokers not only have a shortened life expectancy, they also are at greater risk for cancers of the lung, larynx, mouth, esophagus, bladder and pancreas. Smoking also increases the chance that children will be born prematurely or at low birth weight. What you may not know is that smoking also is a major risk factor for coronary heart disease.

The good news is that much of the damage caused by smoking can be reversed. The latest study on women and smoking concluded that the risk of a first heart attack in smokers was 3.6 times greater than the risk for women who had never smoked, and that the risk increased proportionally with the amount smoked per day. The overall risk of first heart attack for ex-smokers was 1.2 times greater than the risk for non-smokers. The study also showed that the risk of heart attack in ex-smokers was highest among those who had quit for a period of less than two years. The risk declined over time and women who had stopped smoking for three or more years had nearly the same risk of heart attack as women who had never smoked.

This research confirms that, by quitting smoking, you and other women can reduce your risk of heart attack regardless of age, the amount you have smoked, or the length of time you have been smoking.

I'm buying a new home in a town with a history of contaminated water. How can I be sure my water is safe?

Practically speaking, there is no such thing as pure water; even mountain-spring water contains natural minerals and substances that can be potentially harmful in large doses. Nonetheless, your concern is well-founded, since an estimated 100,000 Americans are afflicted each year with infectious disease through their tap water. Studies have shown that many of the nation's 50,000 water supplies are contaminated with carcinogens, such as metals and chlorinated solvents, as well as pesticides and sodium.

While many people have turned to bottled water as an alternative to tap water, certain manufacturers of bottled water have been found by regulatory bodies to have sanitary deficiencies in their plants. Although most bottled waters are free of organic carcinogens, consumer-safety experts recommend reading labels very closely, and reading consumer advocate publications.

Many home filtration systems can purify water to the quality of a water treatment plant, but cheaper systems can be grossly ineffective in design, operation and maintenance. You should consult consumer guides for evaluations of these systems. For the best information on your local water supply, you should go to your town's board of health.

I would like to improve the color and shape of my teeth so that I can have a nicer smile. What can I do?

A type of dental health care known as cosmetic dentistry specifically attempts to design an overall improved appearance to a person's smile.

Bleaching is an option for someone who is dissatisfied with the color of his or her teeth. Convenient new bleaching methods have recently emerged whereby the patient, under the guidance of a dentist, can do the procedure at home. With this new technique, the patient uses a mouthguard device at night that is filled with a special bleaching solution.

Laminates are often used to fill in spaces, to make teeth appear straight, or to repair fractured teeth. Laminates are custom-made porcelain shields that fit closely with the tooth surface. When they are bonded to the tooth, the dentist can control the size, shape and color to alter the appearance of one's mouth.

A new computer-assisted system for generating ceramic restorations recently has been introduced. This new system enables a dentist specially trained in the techniques to optically scan a tooth with an infrared camera connected to a computer, and then design a ceramic restoration on the computer.

My 73-year-old grandmother suffers from emphysema, but refuses to remain indoors when the air quality is bad. How might this affect her?

Poor air quality typically occurs between July and September, when air temperature and humidity are highest. At least 140 million Americans live in areas where the air is generally unhealthy; bad air can be blown hundreds of miles away into rural areas.

Unhealthy air or smog is made up of an unusually high concentration of pollutants, such as ozone, carbon monoxide and other toxins released daily by cars, industrial plants, chemical manufacturers and incinerators. Ozone, which reduces the lungs' ability to flush out infectious toxins, can cause coughing, sinusitis, chest pain and general malaise, and also can aggravate asthma. Carbon monoxide, which is emitted from automobile engines, disrupts the delivery of oxygen to the body by binding to red blood cells. Studies have shown that areas where concentrations of carbon monoxide in the air are high have increased cases of anginal chest pain and death following heart attack.

Your grandmother should check the air-quality readings each day, and she should refrain from exertion outdoors and remain indoors when the air quality is bad.

If you or any of your family members or friends have health concerns similar to those presented in these questions, and you would like to see an appropriate physician, or for more information, you can call the University Hospital at 1-800-842-3648.

The information in "Health Notes" was derived from the University Hospital's "Matters of Health," a health column written in cooperation with the physicians and staff of Boston University Medical Center.

News & Names

NAMES

Babayan

Tifft

■ On June 18, 1990, UH urologist **Richard K. Babayan, M.D.**, was elected by his peers to succeed UH hypertensionist **Charles P. Tifft, M.D.**, as president of the Medical-Dental Staff. As president, Babayan will serve a one-year term as the liaison between physicians and UH administration, and as a representative to the Board of Trustees. As immediate past president, Tifft will advise Babayan, when needed, on matters pertaining to Medical-Dental Staff issues.

Ryan

■ **Thomas J. Ryan, M.D.,** chief of the Section of Cardiology, recently embarked on a 10-month sabbatical to Oxford University to conduct cardiovascular research. Ryan's research is supported by a prestigious fellowship awarded by the John E. Fogarty International Center of the National Institutes of Health (NIH). An international figure in cardiology, Ryan will share his broad experiences with clinical trials of thrombolytic therapy with his British counterparts. It also is hoped that improved clinical trial methodology for cardiovascular disease may emerge from this research endeavor.

Manuel

■ **Barry M. Manuel, M.D.,** UH surgeon and associate dean and professor of surgery at Boston University School of Medicine, recently took office as president of the Massachusetts Medical Society (MMS), a statewide organization of more than 14,000 physicians. Manuel is a nationally recognized expert on professional liability, as well as continuing medical education, clinical competancy, managed health care, and cost containment.

Bonenfant

Wong

■ In keeping with the Hospital's long tradition of nursing excellence, two UH nurses recently were honored by national nursing organization for professional excellence. Nurse Manager **Julie Bonenfant, R.N., CCRN**, was selected as national spokesperson for Nurses of America, a proactive organization charged with enhancing the image of nursing and recruiting into the profession. Bonenfant also is chairperson-elect of the 650-member Massachusetts Council of Nurse Managers (MCNM). Among her responsibilities for MCNM is creating a media-response program to assess the media's portrayal of the nursing profession.

In addition, UH surgical oncology nurse **Patricia Doran Wong, R.N.**, who has been practicing nursing at UH for 18 years, was named as the Massachusetts winner of the Search for Excellence Award by the American Nurses Association. The award is given annually to one nurse in each state who best exemplifies the qualities of nursing.

Teager

■ On January 8, 1990, the Hospital lost a great friend and colleague in the passing of **Herbert M. Teager, Sc.D.**, head of the UH Section of Biomedical Engineering and a research professor of medicine at the School of Medicine. Dr. Teager was a pioneer in the fields of speech production and hearing, and spent many years studying the characteristics of the human vocal tract and its use as a passive medical diagnostic tool. In December 1989, he and his wife and research associate, Shushan Teager, were honored with a Sloan Foundation grant in recognition of their work in the speech and hearing sciences.

NEWS

Onlookers admire the Hospital's newly unveiled history display.

■ This past spring, UH marked the 135th anniversary of its original charter from the Commonwealth of Massachusetts with a series of events emceed by Hospital President **J. Scott Abercrombie Jr., M.D.** Included in the ceremonies was the unveiling of three displays that visually depict the rich heritage of the Univer-

Dr. Abercrombie

sity Hospital. A spectacular History Display, located opposite the entrance to the Skylight Dining Pavilion on level 2 of the Atrium Pavilion, captures the Hospital's century-long tradition of innovative methods of care and research, from the practice of homeopathic medicine in the late 19th century to leadership in developing penicillin and surgical lasers in the last few decades.

Muralist Jim McGurl touches up his work

A colorful Wall Mural painted 18 years ago by well-known Boston muralist Jim McGurl, of Quincy, was mounted in the corridor on Atrium level 2. The mural, which originally graced the walls of the old chapel, shows historical clinical and nursing scenes that chart the evolution of the Hospital.

A Wall of Philanthropy was created in the Atrium 2 corridor as a tribute to the generous donations made to support the mission of UH through the years. Among the many plaques hanging on the Wall are those commemorating the historical generosity of UH's "founding families"—the Aldrichs, the Prestons, the Keefers, and the Wesselhoefts.

■ The Hospital recently graced the western edge of the Atrium Pavilion with colorful signage depicting the Hospital's name and corporate logo. The signage, which is visible during daylight and is lit in University Hospital green at night, can be seen from the Southeast Expressway, as well as from the Hancock Tower near Copley Square.

IN THE NEWS

Since the last issue of ***Progress***, the following University Hospital and/or Boston University School of Medicine health professionals have appeared in the media as expert sources for news stories:

Sanford Auerbach, M.D., Neurology, was interviewed by the *Boston Herald* about a new drug being tested for Alzheimer's disease, and appeared on the WCVB-TV Channel 5 news and the "Good Day" show to discuss sleep disorders....**Michael D. Blaszyk**, executive vice president for Corporate Services, was interviewed by WBZ-AM radio about the Hospital's new bond issue....**Anna Bissonnette, R.N.**, associate director, Home Medical Service, appeared in a ***Mature Outlook*** article on the Hospital's BESS computer system to identify benefits for elders, and was interviewed by the *Boston Globe* and WNEV-TV Channel 7 about the Hospital's Community Service Award....**Julie Bonenfant, R.N.**, Nursing, was interviewed by WBZ-AM radio about National Nurses Week....**David Center, M.D.**, Pulmonary Medicine, appeared in a *Manchester (NH) Union-Leader* article on spring allergies....**Aram V. Chobanian, M.D.**, director, Whitaker Cardiovascular Institute and dean of Boston University School of Medicine, was a source for a *Boston Globe* story on the benefits of lowered blood pressure....**Murray M. Freed, M.D.**, chief, Rehabilitation Medicine, was interviewed for a WNEV-TV Channel 7 segment on spinal cord injury rehabilitation....**Irwin Goldstein, M.D.**, Urology, was interviewed on WEEI-AM radio about his new book on impotency, entitled 'The Potent Male'....**David Felson, M.D.**, Arthritis, was interviewed on WBZ-TV Channel 4 about side effects of the drug L-Trytophan....**Harvey W. Kaufman, M.D.**, Laboratory Medicine, was interviewed for a *Lynn Daily Item* story about the accuracy of cholesterol tests....**Maureen T. Kavanah, M.D.**, Surgical Oncology, appeared in a WBZ-TV Channel 4 segment on surgery for melanoma....**Howard K. Koh, M.D.**, medical oncology and dermatology, was interviewed for *Boston Herald, Quincy Patriot Ledger* and *Woburn Daily Times-Chronicle* articles on the effectiveness of skin-cancer screenings....**Robert J. Krane, M.D.**, chief, Urology, was interviewed for a *Boston Globe* article on a new therapy for kidney cancer....**Tina Lawson**, Human Resources, was interviewed by WVBF radio about UH's voter registration drive....**Harold Lazar, M.D.**, Cardiothoracic Surgery, was interviewed by the *Medical Tribune* for a story of cold storage of hearts for transplantation....**Robert H. Lerman, M.D., Ph.D.**, chief, Clinical Nutrition, was interviewed about liquid diets by the *Quincy Patriot-Ledger* and WLVI-TV Channel 56....**Nancy McAward, R.N., M.S.N.**, Nursing, was a source for a *Middlesex News* story on the Massachusetts nursing shortage....**Eileen O'Brien**, Home Medical Service, was interviewed by the Neighborhood Network News and the *South End News* about the Elders Living at Home Program....**Rafael Ortega, M.D.**, Anesthesiology, was a source for WCVB-TV Channel 5 and WNEV-TV Channel 7 segments on a heart surgery patient from the Dominican Republic....**Gary S. Rogers, M.D.**, Dermatology, appeared in a *Woburn Daily Times-Chronicle* on early detection of skin cancer....**Philip Wolf, M.D.**, Neurology, appeared in *Boston Herald, Philadelphia Inquirer* and *Miami Herald* stories on his stroke-risk profile.

Chobanian

Krane

Wolf

CORRECTION: The 1989 Donor List that appeared in the April 1990 issue of **Progress** omitted the fact that the Partners' level gift from Mrs. Edythe G. Seigal was from the Charles and Edythe Seigal Charitable Trust in memory of Charles I. Seigal. Thank you.

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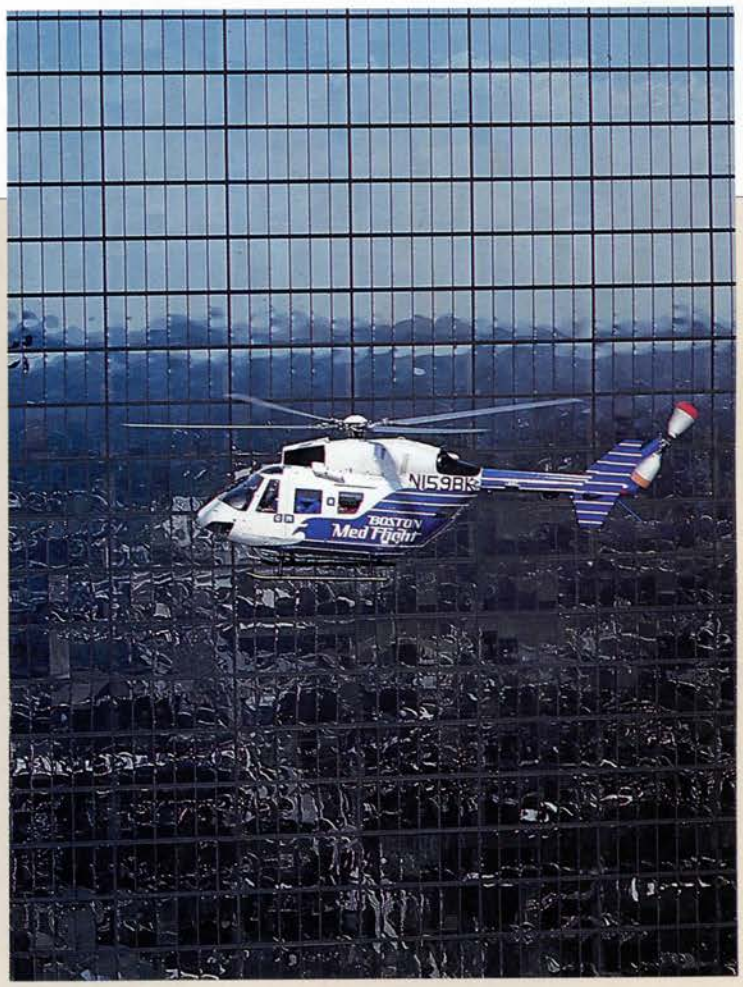

FIVE YEARS AND CLIMBING...

Since airlifting its first patient on June 25, 1985, Boston MedFlight, a medical emergency helicopter, has transported nearly 3,100 critically ill and critically injured patients more than 100,000 miles; and those numbers continue to grow.

UH, along with Boston City Hospital, makes up the Boston Emergency Medical Center (BEMC)—one of three designated Level 1 trauma centers in Metropolitan Boston. A virtual ambulance in the sky, MedFlight serves the consortium of Boston trauma centers, operating 24 hours a day, seven days a week, within a 125-mile radius of Boston.

Said Erwin F. Hirsch, M.D., BEMC director and chief of the UH Trauma Section, at recent ceremonies to celebrate MedFlight's five-year anniversary, "MedFlight represents a simple way for physicians to get their patients into Boston, without having to simultaneously arrange for various services—one call does it all."

"We're seeing more critically ill patients being transported by helicopter and that's encouraging because it allows medical procedures to begin right at the scene [of an accident] or at the community hospital," adds Suzanne K. Wedel, M.D., MedFlight's executive medical director and associate director of UH's Surgical Intensive Care Unit. "And there are things we can do now that we couldn't do five years ago. We are constantly improving."